

CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

QUANTUM

Butroxydim 250 WG

HERBICIDE

ACTIVE CONSTITUENT: 250 g/kg BUTROXYDIM

GROUP 1 HERBICIDE

For the control of certain grasses in a range of broadacre crops as per the directions for use.

APVMA Approval No.: 96623/150118

WG Formulation Type
Water Dispersible
Granule

**BE PROUDLY
AUSTRALIAN**

Quantum Agrosiences Holdings Pty Ltd | ABN 79 680 792 625
Suite 2, Level 7, 330 Collins Street, Melbourne, Victoria 3000
T: 1300 658 988 | www.quantumag.au

 **QUANTUM
AGROSCIENCES**

DIRECTIONS FOR USE

Restrains:

DO NOT treat weeds that are not actively growing or are growing under stress. Under such circumstances the biological processes of the weeds slow down and Quantum Butoxy 250 WG Herbicide transport in the weed can be drastically reduced, resulting in an incomplete kill or suppression only of the weeds.

DO NOT apply to annual grass weeds after mid-tillering.

DO NOT apply at flowering stage of weeds.

DO NOT apply under conditions of prolonged high or very low temperature (frosts), moisture stress (waterlogging or drought), low humidity, poor fertility or stress from previous herbicide application.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift

DO NOT allow bystanders to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.

DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

CROP	WEEDS CONTROLLED	WEED STAGE
Chickpeas Faba beans Field peas Lentils Linseed Lucerne Lupins Vetches (<i>Vicia</i> spp.) White and Subterranean Clover Medic pastures	Annual ryegrass (<i>Lolium rigidum</i>) Barley grass (<i>Hordeum</i> spp.) Wild oats (<i>Avena</i> spp.) Annual ryegrass (<i>Lolium rigidum</i>) together with any of the following grasses: Annual Phalaris (<i>Phalaris</i> spp.), Barley grass (<i>Hordeum</i> spp.), Brome grass (<i>Bromus</i> spp.) Volunteer cereals - Wheat (<i>Triticum aestivum</i>), - Barley (<i>Hordeum vulgare</i>), - Oats (<i>Avena sativa</i>) - Triticale (x <i>Triticosecale</i>) Wild oats (<i>Avena</i> spp.)	2 leaf to early tillering Zadoks 12-23
Canola (conventional TT, "IMI" varieties)	Annual ryegrass (<i>Lolium rigidum</i>) together with any of the following grasses: Annual phalaris (<i>Phalaris</i> spp.), Barley grass (<i>Hordeum</i> spp.), Brome grass (<i>Bromus</i> spp.) Volunteer cereals Wheat (<i>Triticum aestivum</i>), Barley (<i>Hordeum vulgare</i>), Oats (<i>Avena sativa</i>), Triticale (x <i>Triticosecale</i>), Wild oats (<i>Avena</i> spp.)	2 leaf to early tillering Zadoks 12-23

STATE	RATE/ha	CRITICAL COMMENTS
All States	80 to 180 g *	Use the lower rates for younger weeds growing actively under ideal conditions. Use the higher rates for weeds that are predominantly at early tillering, or where denser populations are present or under less than ideal growing conditions or where some weed resistance to Group 1 Herbicides are suspected. Because of the extreme variation of cross resistance present in annual ryegrass populations there is no guarantee that Quantum Butroxy 250 WG Herbicide will always provide consistently high levels of control but trials have shown that higher rates may be expected to perform better than lower rates. For all crops apply in not less than 50 L water/ha.
	80 to 180 g * # plus an effective rate of a fop herbicide containing fluazifop, haloxyfop, propaquizafop, or quizalofop	# Refer to the label of the partner herbicide for rates and specific directions for use. Quantum Butroxy 250 WG Herbicide has good activity on barley grass and wild oats but is weaker on brome grass and volunteer cereals so the addition of a partner fop herbicide is generally recommended where any of these other weeds occur together with annual ryegrass. For the partner herbicide use rates at the lowest end of the range recommended for the particular grass weed. Guidance can also be obtained from labelled tank mixes of the partner herbicide with other dim herbicides.
All States	80 g* # plus an effective rate of a fop herbicide containing fluazifop, haloxyfop, propaquizafop, or quizalofop	Warning: Canola can be sensitive to Quantum Butroxy 250 WG Herbicide. DO NOT use more than 80 g/ha on canola. To minimise leaf symptoms do not apply to any variety before the majority of plants (80%) are at the true 4 leaf stage (4th leaf expanded 5th leaf emerging). Under certain conditions, all varieties may exhibit leaf symptoms and/or reduced early competitiveness. If this occurs canola yield is usually unaffected but, in some instances, may be reduced. Avoid spraying stressed crops as crops growing under stress will show slower recovery. Avoid spraying practices that lead to over application such as double overlap, and spraying out corners. # Refer to section above for control of additional grasses.

CROP	WEEDS CONTROLLED	WEED STAGE
Lucerne Mung beans Navy Beans Peanuts Soybeans	Echinochloa species - Awnless barnyard grass (<i>E. colona</i>), - Barnyard grass (<i>E. crus-galli</i>), - Japanese millet (<i>E. utilis</i>)	2 leaf to early tillering Zadoks 12-23
Cotton	Digitaria species - Crab grass (<i>D. sanguinalis</i>), - Summer grass (<i>D. ciliaris</i>)	
Sunflowers	Chloris species - Feather top Rhodes grass (<i>C. virgata</i>), - Windmill grass (<i>C. truncate</i>) Setaria species - Dwarf setaria (<i>S. italica</i>), - Whorled pigeon grass (<i>S. verticillate</i>) Brachiaria species - Green summer grass (<i>B. subquadriflora</i>), - Velvet grass (<i>B. windersii</i>) Volunteer Crops - Maize (<i>Zea mays</i>), Sorghum (<i>Sorghum bicolor</i>), Crowsfoot grass (<i>Eleusine indica</i>), Dinebra (<i>Dinebra reflexa</i>), Early spring grass (<i>Eriochloa pseudoacrotricha</i>), Johnson grass (<i>Sorghum halepense</i>) (seedling), Liverseed grass (<i>Urochloa panicoides</i>), Spiny burr grass (<i>Cenchrus incertus</i>)	
Sunflowers	Eragrostis species - Elastic grass (<i>E. tenuifolia</i>), - Mexican love grass (<i>E. mexicana</i>), - Stink grass (<i>E. cilianensis</i>)	2 leaf to 5 leaf but prior to tillering
	Volunteer cereals - Wheat (<i>Triticum aestivum</i>), - Barley (<i>Hordeum vulgare</i>)	2 leaf to early tillering Zadoks 12-22, prior to stem elongation
	Other Grasses Coast button grass (<i>Dactyloctenium aegyptium</i>), Grader grass (<i>Themeda Quadrivalvis</i>)	2 leaf to 5 leaf but prior to tillering
* Always apply with oil spray adjuvant (for example Quantum Butoxy 250 Herbicide Takedown Spray Oil) at 1L/100L of spray solution. For aerial application apply oil spray adjuvant at a rate of 1 L/ha. Note: Does NOT control winter grass (<i>Poa annua</i>), Silver grass (<i>Vulpia</i> spp.), Nutsedge (<i>Cyperus</i> spp.) and broadleaf weeds.		

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

STATE	RATE/ha	CRITICAL COMMENTS
Qld, NSW, Vic & NT only	120 g or 180 g *	Use the lower rate for the control of seedling grasses at the pre-tillering growth stage and growing under good conditions. Use the higher rate for control of grasses at the early tillering (2 to 3 tillers) growth stage. Aerial application – see Spraying Instructions.
Qld & NSW only		
Qld, NSW & Vic only		
Qld, NSW & Vic only	120 g*	For the control of pre-tillering grasses only. DO NOT apply to tillered grasses
	180 g*	For the control of grasses from 2 leaf to early tillering only (max. 2 tillers), prior to stem elongation or booting.
	180 g*	Use for suppression only of pre-tillered grasses. DO NOT apply to tillered weeds.

**WITHHOLDING PERIODS:
HARVEST: NOT REQUIRED WHEN USED AS DIRECTED**

**GRAZING
CANOLA, CHICK PEAS, CLOVER, FABA BEANS, FIELD PEAS, LENTILS, LINSEED, LUCERNE,
LUPINS, MEDICS, MUNG BEANS, NAVY BEANS, PEANUTS, SOYBEANS, SUNFLOWERS,
VETCHES:**

DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.

**COTTON: DO NOT GRAZE OR CUT FOR STOCKFEED. DO NOT FEED COTTON TRASH TO
LIVESTOCK.**

GENERAL INSTRUCTIONS

Stress conditions

Moisture stress is a particular problem, whether caused by drought or short-term stresses, resulting from a combination of high temperatures and low humidity or by prior use of pre-emergence herbicides resulting in stunted root growth of weeds. An irrigation or effective rainfall must occur immediately before or after spraying if these conditions exist. Other stress conditions to avoid include use of pre-emergence herbicides resulting in stunted root growth of weeds, frost, waterlogging and extended cold conditions.

DO NOT spray if any stress conditions are evident just prior to application.

MIXING

Add the required amount of Quantum Butroxy 250 WG Herbicide (see table) directly to the spray tank which should be 50% full with clean water. After the product is fully dispersed complete filling the tank. The agitation system should be running during mixing and spraying. If agitation ceases and settling occurs, resuspend contents thoroughly before spraying.

Ensure that all in-line strainer and nozzle screens in the sprayer are 100 mesh or coarser.

Add any other product next.

An oil adjuvant is essential and should be added last to the spray tank.

Oil adjuvant at 1L/100L of water recommended adjuvant for ground application. For aerial application use oil adjuvant at a rate of 1 L/ha.

Oil adjuvant must be added to at least 10 times its volume of water especially where a suction (filling) probe is used.

The area covered per measure pack will depend upon the application rate/ha according to the following table:

Quantum Butroxy 250 WG Herbicide Rate/ha	Hectares covered by					
	1 kg	2 kg	3 kg	4 kg	5 kg	10 kg
80 g	12.5	25.0	37.5	50.0	62.5	125
100 g	10.0	20.0	30	40.0	50.0	100
150 g	6.7	13.3	20.0	26.7	33.3	66.7
180 g	5.6	11.1	16.7	22.2	27.8	55.6

APPLICATION

Time of application: Quantum Butroxy 250 WG Herbicide is rain fast within 30 minutes.

DO NOT apply Quantum Butroxy 250 WG Herbicide if rain is expected within 30 minutes. To obtain the maximum benefits of this product, weeds should be sprayed when young and actively growing. Use the lower rates for grasses with up to 4 leaves. Use the higher rates for weeds with up to 3 tillers.

Unless otherwise specified in the Critical Comments application may be made at any stage of crop growth but allowing sufficient time for the prescribed withholding period.

Method of application: Good spray coverage is essential for maximum results. Spray equipment must be checked and calibrated accurately prior to application.

Boom spraying: Check height of boom above the target weeds to ensure the spray is evenly distributed and a double overlap pattern is obtained. An even distribution of fine droplet size is desirable for maximum efficacy. The inclusion of Supercharge coarsens the spray quality when applied through a TeeJet XR11002 nozzle such that a Medium spray quality results which will help reduce the likelihood of drift.

Broadacre use: Water volumes per hectare will depend on nozzle selection and ground speed but should be in the range of 50-100L/ha. 1100 flat fan nozzles are preferred for use with this product. Use higher volumes of spray to achieve better coverage of dense, vigorous weed infestations and/or if the nozzles used produce coarser than a Fine spray quality (measured with water). The use of air induction nozzles is not recommended until further trial data is available.

Aerial application: The product may be applied through boom or Micronair units in 20-30L of water per hectare. The use of the higher volume is preferred due to more reliable results. Spray quality should be Fine droplet size category and swath width should not be wider than recommended for type of plane and application unit. Weed control following aerial application may not be as good as from ground application.

Sprayer clean-up or decontamination

Before spraying sensitive crops (which include canola, chickpeas, faba beans, field peas, lupins, lucerne, clover etc.) thoroughly remove all traces of SU herbicides such as metsulfuron methyl, chlorsulfuron or triasulfuron or Carfentrazone from mixing and spray equipment immediately after use as recommended on the label for that herbicide.

RESISTANT WEEDS WARNING

Quantum Butroxy 250 WG Herbicide is a member of the Cyclohexanedione (DIM) group of herbicides. The product has the inhibitors of acetyl coA carboxylase mode of action. For weed resistance management, the product is a Group 1 herbicide. Some naturally occurring weed biotypes resistant to the product and other Group 1 herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by this product or other Group 1 herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Quantum Agrosiences Holdings Pty Ltd accepts no liability for any losses that may result from the failure of Quantum Butroxy 250 WG Herbicide to control resistant weeds.

GROUP	1	HERBICIDE
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PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions or from spraying equipment which may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

DO NOT plant cereal crops for a period of 4 weeks after application of Quantum Butroxy 250 WG Herbicide.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Highly toxic to algae and aquatic plants. DO NOT contaminate streams, rivers or watercourses with the chemical or used containers.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. DO NOT store prolonged periods of direct sunlight. Triple rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. DO NOT burn empty containers or product.

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. Avoid inhaling dust. When preparing product for use wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length chemical resistant gloves and goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26; New Zealand 0800 764 766.

SAFETY DATA SHEET

For further information refer to Safety Data Sheet (SDS) which can be obtained from the supplier.

CONDITIONS OF SALE: Quantum Agrosiences Holdings Pty Ltd shall not be liable for any loss injury damage or death whether consequential or otherwise whatsoever or howsoever arising whether through negligence or otherwise in connection with the sale supply use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on Quantum Agrosiences Holdings Pty Ltd's skill or judgement in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of Quantum Agrosiences Holdings Pty Ltd has any authority to add to or alter these conditions.

Additional information required under the Globally Harmonised System (GHS) classification of the substance/mixture: **Harmful if swallowed. Causes skin irritation. Suspected of damaging fertility. Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects.**

Do not handle until all safety precautions have been read and understood. Wear protective gloves and protective clothing. Wash all exposed external body areas thoroughly after handling. Do not eat, drink or smoke when using this product.



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